Risk Management Process

CalWIN

Revised Date: 02/25/00 10:24 AM

RECORD OF CHANGES

Change Number	Brief Description of Change (include page numbers)	Date	Responsible Party
1.0	Created Risk Management Process document.	02/28/00	PMO

CalWIN Project

Risk Management Process

Executive Summary

Risk Management provides management with appropriate visibility into the process being used by CalWIN and of the products being built. Risks are first addressed at the lowest CalWIN Management level appropriate for the risk. Risk is managed by using standardized methods and procedures to identify key threats to project success, assess their severity, and prepare action plans to mitigate potential program problems. These plans are tracked to closure.

Purpose and Scope

The Risk Management process documents the activities used to manage risk. It documents the activities of risk identification, risk assessment, risk mitigation planning, and risk monitoring and reporting. The activities that are defined in this process provide visibility to the project manager and the entire project team of the process used and products produced. Also, the activities provide visibility into the effectiveness and efficiency of the process. Quality Assurance (QA) will periodically review the Risk Management process to improve activities and provide for process improvement.

Goals

The goals of this process are as follows:

- Ensure Risk activities are planned.
- Ensure that affected groups and individuals are informed of Risk activities and results.
- Institutionalize Risk Management and make it an integral part of CalWIN practices.

Value

The activities that are defined in this process provide visibility to managers and the entire project team as to the key threats to be jointly addressed by the CalWIN team. Effective Risk Management provides the following value to the Project:

- Ensures key threats are adequately assessed and responded to.
- Prevents threats from adversely affecting the project.
- Facilitates timely communication of risk information.

Applicable Policy, Standards, and References

- Risk Management Plan

Description

Risk is commonly defined as a measure of the probability and severity of adverse effects. Because outcomes from risk are not certain, it is essential to manage risk. The use of a formal process helps identify risks early in the project and incorporate actions that reduce the negative impact to the project. Risk Management is a continual process of timely risk identification, accurate risk assessment, effective risk mitigation. Progress monitoring and follow-up activities are a continuous cycle in Risk Management facilitating low-risk program transition through design and implementation.

Risks are maintained in a centralized database and can be reviewed by all team members. Risk management planning, status and contingency plans are reviewed at monthly project reviews.

Activities in the CalWIN Risk Management Process are:

Project Startup
- Conduct High-level Risk Assessment

Project Planning
- Identify, Document, Categorize
- Assess and Prioritize
- Create Risk Plan
- Communicate
- Apply to Project Plan

Project Execution
- Monitor
- Evaluate Risk Information
- Take Corrective Action

Inputs

Work Product	Source	Status[1]	Internal/ External[2]	Entrance Criteria[3]
Historical Risk Information	Lesson Learned Past Projects	Complete	External	Y
Invitation to Partner CalWIN	CalWIN Repository	Complete	External	Y
Proposal	CalWIN Repository	Complete	External	Y
Work Breakdown Structure	CalWIN Repository	Complete	Internal	Y
Potential Project Risks	CalWIN Project Team	In Progress	Internal	Y
Project Control Document	PMO	In Progress	External	Y
Risk Management Database	CalWIN Repository	In Progress	Internal	Y

Outputs

Work Product	Recipient	Status[1]	Internal/ External[2]	Exit Criteria[3]
Lessons Learned	CalWIN Management Team QA Team	Complete	External	N
Project Control Document (updated)	CalWIN Management Team QA Team	In Progress	External	Y
Quality Assurance Review Notice	CalWIN Project Team	In Progress	External	N
Risk Management Database (updated)	CalWIN Project Team QA Team	In Progress	Internal	Y
Risk Plan	CalWIN Management Team QA Team	In Progress	Internal	Y
Project Schedule (Updated)	CalWIN Management Team	In Progress	External	N

[1]Status indicates the work product is either complete upon entry or exit from the process, or in-progress upon entry or exit from the process.

[2]Internal/External - Identifies if the work product is used for this process only (Internal) or used by other processes (External).

[3]An Entrance Criteria of "Y" indicates the work product is required to enter the process. An Exit Criteria of "Y" indicates the work product is required to exit the process.

Roles and Responsibilities

The terms *role* and *agent* are used interchangeably in this process documentation. The agent identified with an asterisk (*) within each of the activity agent listings has the primary responsibility for ensuring the activity is accomplished.

Roles	Responsibilities
CalWIN Project Team	• Identifying potential risks, which may impact CalWIN. • Accomplish tasks in accordance with the processes, standards, and policies defined for the project.
EDS CalWIN Manager	• Facilitate evaluation of lessons learned and implementation of process improvements.
PMO	• Maintains Project Control Document, Risk Management Database, Risk Management Process and Risk Management Plan.
Risk Owner	• Develop and executes risk plans.
Process Owner	• Develops and executes plans for process improvements as necessary.
QA Team	• Conducts periodic Quality Assurance Reviews on the Risk Management process.
Technical Support	• Establish and maintain the automated tool, database, and ensures a secure and recoverable environment.

Tools

Tools	Purpose
Project Repository	• Maintain source information, presentation materials, points of contact, and history.
Risk Management Database	• To track, manage, control, and communicate jointly managed risks.

Process Flow

[Insert Process Sourcerer Flow]

Activities

1. Conduct High-level Risk Assessment

Purpose The High-Level Risk Assessment is an initial broad view of the risk associated with the project.

Description The High-Level Risk Assessment is the first step in the risk assessment process. Identification of potential risks commonly begins with the use of the project WBS and proposal. The assessment follows activities 2 through 9.

Inputs
- Historical Risk Information
- WBS
- Proposal

Outputs
- CalWIN Jointly Managed Risks
- CalWIN Risk Plan

Agents
- CalWIN Management Team*

Note: The agent identified with an asterisk (*) within each of the activity agent listings has the primary responsibility for ensuring the activity is accomplished.

2. Identify, Document, Categorize

Purpose Before risks can be managed, they must be identified. Identify risks likely to affect the project, document the characteristics of each, and categorize each risk.

Description Risk identification should address both internal and external risks. Internal risks are things that the project team can control or influence. External Risks are things beyond the control or influence of the project team. Once a risk has been identified, the Risk Template is used to document and categorize each risk.

2.1 Identify Candidate Risk

Risk identification may be accomplished by identifying causes-and-effects (what could happen) or effect-and-causes (what outcomes are to be avoided). Risk identification is not a one-time event; it should be performed on a regular basis throughout the project. Potential risks are associated with requirements, design specifications, processes, people, management, environment, and resources.

2.2 Review Candidate Risks

Analyze each candidate risk to determine if it is tangible and measurable. Based on risk assessments, the set of risks that will be formally managed is identified by selection of the risks that are most likely to have a negative effect on the project. Candidate risk having minor or low probability or impact to the project may be eliminated.

2.3 Determine Risk Category

Risk Categorizing follows the project life cycle and provides a framework for organizing data and information. The taxonomy-based identification method provides the organization with a systematic approach to identify sources of risk. CalWIN risk categories are:

- Requirements (stability, completeness, feasibility)
- Design (functionality, non-developmental software, performance)
- Products (specification, documentation)
- Processes (planning, product control, process formality)
- Resources (personnel, schedule, resource allocation)
- Management (methodologies, techniques, quality, monitoring)
- Environment (physical infrastructure, cultural environment)
- Development System (capacity, suitability, usability)
- Technology (proven, unproven)
- Cost
- Other (For “Other”, further clarify the category.)

2.4 Record Risk

Agreed upon risks will be formally controlled and entered into the project risk database.

Inputs

- Historical Risk Information
- Statement of Work
- Proposal
- WBS

Outputs

- Candidate CALWIN joint risks

Agents

- CalWIN Management Team*

Note: The agent identified with an asterisk (*) within each of the activity agent listings has the primary responsibility for ensuring the activity is accomplished.

3. Assess and Prioritize

Purpose Assess each risk item for probability and the potential impact to the project should the risk occur.

Description For each risk, determine and validate impact, probability, and risk priority.

Impact refers to the severity of the consequences to the project (1-3).

Probability refers to the volatility of the likelihood that a risk will occur (1-3).

Risk priority is determined by multiplying the numerical equivalent value of the impact and probability together.

Ratings range from low severity (1) to a high severity (9). Contingency plan development and implementation is based on the risk rating of 9.

3.1 Assign Risk Owner

Identify the person who will be responsible for determining risk impact, probability and priority. This individual will be responsible for developing risk mitigation and contingency plans to reduce the risk, providing risk updates, and tracking the risk to closure.

3.2 Determine Risk Impact

For each risk, assign and validate the impact. Impact refers to the severity of the consequences to the project if the risk is not resolved, or the potential risk occurs (1 – 3).

1 – low
2 – medium
3 – high

3.3 Determine Risk Probability

For each risk, assign a risk probability. Probability refers to the volatility of a risk or the likelihood that a risk will occur (1 – 3).

1 – low
2 – medium
3 – high

3.4 Determine Risk Priority

For each risk, calculate the risk priority. Risk priority is calculated by multiplying the numerical equivalent value of the risk impact and probability. The following guidelines aid in establishing actions to take regarding risk handling and contingency planning based on risk priority:

9 Risk mitigation or elimination through active plan implementation.
6 Risk should be mitigated or eliminated through active plan implementation.
1–4 Need to judge if action should be taken to lesson the impact or reduce the probability of occurrence based on factors such as effort, resource availability and, schedule impact.

Inputs

- Candidate CALWIN joint risks

Outputs
- CALWIN joint risks
- Risk owner
- Risk impact
- Risk probability
- Risk priority

Agents
- CalWIN Management Team*

Note: The agent identified with an asterisk (*) within each of the activity agent listings has the primary responsibility for ensuring the activity is accomplished.

4. Create Risk Plan

Purpose Document the approach for handling risk.

Description Risk approaches are: Eliminate, Mitigate, Accept, Study, or Transfer. Develop Risk Action Plans and Risk Contingency Plans. An action plan identifies the actions taken to transfer or mitigate risk. These actions should result in the reduction of project risk and should directly affect the Project Plan. Contingency plans are executed if the risk event occurs. A plan is created for accepted or external risks that have a high probability of occurring and that might have a severe impact on the project. Document the method to measure the effectiveness of the risk approach selected.

4.1 Identify Approach

Identify and document the risk handling approach: Eliminate, Mitigate, Accept, Study, or Transfer.

4.2 Develop Action/Contingency Plan

For each jointly controlled risk requiring risk action or contingency planning, develop action/contingency plans which are in concert with CalWIN objectives to eliminate or reduce the risk to an acceptable level.

4.3 Develop Measurement

Document the method to measure the effectiveness of the risk approach selected.

Inputs

- CALWIN joint risks
- Risk owner
- Risk impact
- Risk probability
- Risk priority

Outputs

- Risk Plan
- Risk Management Database (updated)

Agents

- Risk Owner*

Note: The agent identified with an asterisk (*) within each of the activity agent listings has the primary responsibility for ensuring the activity is accomplished.

5. Communicate

Purpose Risk communication cannot be overemphasized because of its pervasiveness and its criticality. Without effective communication, risk management cannot be viable.

Description To be analyzed and managed correctly, risks must be communicated to and between the organizational levels.

5.1 Communicate Risk

Review risks with all levels of the project team to validate the information and inform all team members of risks to CalWIN. It is the responsibility of all team members to prevent risks from causing unacceptable impacts to the project.

Inputs
- Risk Plan

Outputs
- Risk Plan (updated)
- Project Control Document (updated)

Agents
- CalWIN Management Team*

Note: The agent identified with an asterisk (*) within each of the activity agent listings has the primary responsibility for ensuring the activity is accomplished.

6. Apply to Project Plan

Purpose Incorporate the Risk Assessment/Handling Plan into the Project Plan.

Description An action plan identifies the actions that are taken to transfer or mitigate risk and should be planned for in your Project Plan. Contingency plans are executed if the risk event occurs. Depending on the probability of the risk events occurring, appropriate contingencies need to be built into the Project Plan.

6.1 Execute Risk Approach

Execute the Risk Management approach in order to respond to risk events over the course of CalWIN.

Inputs
- Risk Plan
- Project Control Document
- Project Schedule

Outputs
- Risk Plan (updated)
- Project Control Document (updated)
- Project Schedule (updated)

Agents
- CalWIN Project Team*

Note: The agent identified with an asterisk (*) within each of the activity agent listings has the primary responsibility for ensuring the activity is accomplished.

7. Monitor

Purpose Monitor actions and decision made to resolve risks, or the time for impact has passed.

Description In preparation for reviews, update project risk information. Document the results using the Risk Template. Risks are tracked and risk information is reviewed on a monthly basis. At the monthly review, risks with a high priority (9) are reviewed in detail. Risks with a priority of 1-6 are presented in an informational format, such as totals for each rating.

Inputs
- Risk Plan

Outputs
- Risk Plan (updated)
- Project Control Document (updated)
- Project Schedule (updated)

Agents
- CalWIN Project Team*

Note: The agent identified with an asterisk (*) within each of the activity agent listings has the primary responsibility for ensuring the activity is accomplished.

Note: When changes occur, the risk process cycle is repeated. As risk performance is measured and reported, potential risk events or sources of risk not previously identified may surface.

8. Evaluate Risk Information and Take Corrective Action

Purpose The project team will review project information and update risk-related work products when appropriate.

Description Risks that exhibit moderate to high probabilities will cause the continuation of risk avoidance actions. For risks with a high probability, risk impact minimization actions will be initiated. Risks that have been avoided will be dropped from the risk tracking system.

Inputs
- Risk Plan

Outputs
- Risk Plan (updated)
- Project Control Document (updated)
- Project Schedule (updated)

Agents
- CalWIN Project Team
- Risk Owner*

Note: The agent identified with an asterisk (*) within each of the activity agent listings has the primary responsibility for ensuring the activity is accomplished.

9. Evaluate and Refine Risk Management Process

Purpose To identify lessons learned (successes, problems, and opportunities for improvement), implement process improvements, and ensure institutionalization of the process.

Description At the completion of the process a review will take place to identify lessons learned and improvement that can be made to the process. The Risk Management process will also be periodically reviewed according to the project's Quality Assurance Plan and using the Quality Assurance Process.

9.1 Evaluate lessons learned

Evaluation of lessons learned takes place at the completion of Activity 8 Evaluate Risk Information and Take Corrective Action. The EDS CalWIN Manager will conduct a post-process review to determine lessons learned and identify improvements that can be made to the process. The EDS CalWIN Manager will forward the lesson learned to the QA Team for inclusion in the QA tracking and reporting tools.

9.2 Implement process improvements

Implementation of process improvements is the responsibility of the Process Owner. The EDS CalWIN Manager will forward process improvements identified during the evaluation of lessons learned to the Process Owner for incorporation into the process.

9.3 Review the process

A review of the Risk Management process will be conducted periodically by the QA Team using the project's Quality Assurance Plan and Process. QA reviews assure leaders that a project's activities and work products conform to the process, procedures, requirements, and standards. The QA process review findings also identify nonconformance that may put future projects at risk. The findings are collected over time and used as input to future process improvement efforts. See the QA Plan and QA Process for more details.

Inputs
- Risk Management Process
- Input from Individuals Involved in Process

Outputs
- Lessons Learned
- Risk Management Process (improved)
- Quality Assurance Review Notice

Agents
- EDS CalWIN Project Manager*
- Process Owner (PMO)
- QA Team

Note: The agent identified with an asterisk (*) within each of the activity agent listings has the primary responsibility for ensuring the activity is accomplished.

Supporting Information

Usage and Tailoring Guidelines

In order to achieve the goals that were defined for this process, it is imperative that improvements are encouraged from throughout the CalWIN Project Team; but it is also imperative that these improvements are evaluated and implemented in a controlled manner. In order to accomplish this process, Activities 1 – Conduct High-level Risk Assessment through 9 - Evaluate and Refine Risk Management Process must be performed. The Risk Management process must be adaptable to the unique needs of the WCDS CalWIN Organization projects and their particular situations, but the purpose of each activity must be achieved, regardless of the tailoring.

Metrics

The product and process metrics that will be collected for this work element are described in the following matrices.

Work Product Metrics

Metric	Frequency	Responsibility	Location
Number of risks/per priority	Monthly	PMO	
Number of risk contingency plans	Monthly	PMO	

Process Metrics

Metric	Frequency	Responsibility	Location
Number of process improvements	Periodically	QA	

Verification

The following items will be used as objective evidence that this process is being accomplished as documented:

- Risk Plan
- Lessons Learned
- Quality Assurance Review Notice
- Others as documented in the QA Team review criteria for Risk Management process.